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Journal of the Society of Arts.

FRIDAY, JULY 23, 1858.

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NOTICE TO INSTITUTIONS.

In accordance with the resolution passed at the last Annual General Meeting of the Society, the Council will present to each Institution in Union a quarto copy of the Speeches and Addresses of H.R.H. the Prince Consort.

The Department of Science and Art have placed in the hands of the Council a number of copies of the "Introductory Addresses on the Science and Art Department and the South Kensington Museum," delivered there during the last session, and a copy of this work will also be presented to every Institution in Union.

In addition to the above, the Council have decided to present to each Institution copies of twenty-two lectures delivered before the Society of Arts, on the results of the Great Exhibition of 1851.

Institutions desiring copies of these works are requested either to apply for them at the Society's House, or to communicate to the Secretary of the Society of Arts the address of an agent in London to whom they may be sent.

SPECIAL PRIZE.

The Prize of Twenty Pounds (placed at the disposal of the Council of the Society of Arts for this purpose, by the Rev. F. Trench and J. MacGregor, Esq.,) and the Society's Silver Medal, offered for a Writing Case suited for the use of soldiers, sailors, emigrants, &c., will be awarded according to the following conditions:—

1. *Weight.*—None will be received weighing above five ounces when empty.
2. *Size.*—The size in length and breadth must not exceed that necessary to hold note paper.
3. *Ink.*—The case must not contain ink in a fluid state.
4. *Durability.*—It must be made of a substance not liable to be spoiled by wet, and which will protect the contents from injury.
5. *Cheapness.*—The retail price, with guaranteed supply, must not exceed 1s. 6d.

Competitors are desired to take notice that the Council reserve to themselves the right of withholding the prize should there be no article of sufficient merit brought under their notice.

The articles sent in for competition must be delivered at the Society's House, Adelphi, London, W.C., on or before the 1st of January, 1859.

EXAMINATIONS, 1858.

The following papers, set at the Society's Final Examinations, in May last, are continued from page 545.

STATICS, DYNAMICS, AND HYDROSTATICS.

THREE HOURS ALLOWED.

N.B.—In the first section of this Paper, answer only *one* of the questions under each number, *either* A *or* B; in the second section you may answer all or any of the questions.

Section I.

1. (A) Show how the resultant of any number of forces, acting upon a given point in the same plane, may be determined.

(B) Apply the Principles of the Composition and Resolution of Forces to explain the action of the chains of a suspension bridge.

2. (A) Give a general description of the construction and mode of using Atwood's machine.

(B) Give a Tabular Analysis of the Motion of a Falling Body, carried to five seconds of time.

3. (A) Define the term "Line of Direction," and show that a Cone will stand more firmly on its base than a Cylinder of equal dimensions.

(B) Why is it necessary to lean forward before rising from a Chair?

4. (A) Prove the equation of equilibrium in the Wheel and Axle, and the Screw.

(B) If in a Differential Screw the thread of the outer screw be $\frac{3}{4}$ inch, and that of the inner $\frac{1}{2}$ inch, the length of the lever 2 feet 6 inches, and the power applied 45 lbs., what compressing force will be exerted?

5. (A) State the general Laws of Impact and Collision; and explain the principle upon which the efficacy of the Hammer depends.

(B) Enumerate the principal Machines, and their uses, which depend upon Impact for their power,

6. (A) What is the Hydrostatic Paradox? Describe an apparatus for illustrating the nature of this principle.

(B) Show, by reference to the apparatus called the Hydrostatic Bellows, that the Hydrostatic Paradox is analogous to the principle of "Virtual Velocities" in Mechanics.

7. (A) Show by a diagram the construction of Bramah's Hydrostatic Press; and explain the mode adopted in applying its power to launch the great steam ship "Leviathan."

(B) Explain the principle of the Equality of Pressure of Fluids, and describe its application by a diagram of the Water-crane.

8. (A) A solid immersed in a fluid loses so much of its weight as is equal to the weight of the fluid it displaces; explain the method of verifying this fact experimentally.

(B) Define the meta-centre, and show its relation to the conditions of stable, unstable, and neutral equilibrium in floating bodies.

9. (A) Define the meaning of the term "Specific Gravity." What are the uses and modes of employing the Hydrometer and the Specific Gravity Bottle?

(B) Explain the mode of obtaining the Specific Gravity of a solid substance lighter than water; and apply it to determine the Specific Gravity of a light substance from the following data:—

Weight in air	50 grains.
Weight of piece of Metal in Air	388 grains.
Weight of both in Water	342·2 grains.
Weight of Metal in Water	343·8 grains.

10. (A) Describe any two of the machines which have been used for raising water independently of Atmospheric Pressure.

(B) Explain the construction and the action of the valves of the Lifting and Forcing Pumps respectively.

11. (A) Upon what circumstance does the velocity of a fluid, issuing from an aperture in a vessel, depend? If a tall vessel be pierced with holes at the depth of 1, 4, 9, 16, 25, inches, what will be the respective velocities of the issuing fluid?

(B) What is the Vena Contracta? Explain the cause of this phenomenon, and describe the arrangements by which the greatest quantity of a fluid can be discharged by an aperture of given dimensions at a given depth.

Section II.

1. Describe Smeaton's Pulley, and explain, by a diagram, the system of pulleys in which the equation of equilibrium is

$$P = \frac{W}{2^n}$$

2. Define and explain respectively the Centres of Oscillation, Percussion, and Gyration.

3. Explain the Law of the Descent of a Body upon an Inclined Plane; and find the Velocity of a body when it has moved through 150 feet on a perfectly smooth plane, inclined to the horizon at an angle of 30°.

4. Show that the surface of a fluid at rest is perpendicular to the resultant of all the forces which act at any point of the surface.

5. A portion of freestone weighs in air 1871·7 grains, and in water 1042·76 grains, a portion of marble weighs in air 1087·4 grains, and in water 635·37 grains; compare the densities of the two stones.

6. Water flows from a horizontal jet 10 feet from the ground, in the side of a cylindrical vessel, with a velocity of 4 feet per second; at what distance from the bottom of the vessel will the jet strike the ground?

7. What are the most effective arrangements for the Centrifugal Pump? What proportion of the power can be utilised?

8. Describe the principle and construction of Mongolfier's Hydraulic Ram.

PRACTICAL MECHANICS.

THREE HOURS ALLOWED.

1. What is friction? State the principal laws which regulate its action. Explain some of the means adopted to reduce the friction between an axle and its bearing in machinery.

2. Describe the Hydrostatic Press; explain the principle of its action, and show particularly the method of preventing leakage between the ram and the cylinder.

3. What are the laws which govern the motion of a pendulum? Explain the Dead-Beat Escapement in a clock.

4. What is the object of the fusee in a watch? How is a watch kept going while being wound up?

5. Distinguish between cast iron, malleable iron, and steel.

6. Describe the construction of a Cornish Boiler. What are its principal appendages?

7. Having given the strength of boiler plate per square inch of section, show how to find the thickness of a cylindrical boiler of given diameter, adapted to support a given pressure of steam.

8. Give an account of the principal parts of a condensing Beam Engine.

9. Explain the "Parallel Motion" of a Beam Engine.

10. What is meant by the "lap" and "lead" of a slide valve? In what way do they affect the working of a Steam Engine?

11. How may the Horse Power of a Steam Engine be determined?

12. Explain the advantage of working a Steam Engine expansively. What is the arrangement of Woolf's Engine?

13. Describe Mr. Whitworth's Planing Machine?

14. Give any methods of advancing the Drill in Drilling Machines.

ELECTRICITY AND MAGNETISM.

THREE HOURS ALLOWED.

1. What are the poles of a magnet, and what are their properties?

2. What is inclination or dip? Describe the instrument by which it is observed, and its present amount.

3. How is the compass affected by the iron of a ship? and how can this disturbance be best obviated? Is the effect constant?

4. Can magnetism be properly called an attractive force? Illustrate your answer by experiment.

5. What are the three elements of terrestrial magnetic force? How have their changes been observed and recorded.

6. How many kinds of electricity are there? By what means is their existence recognised?

7. What is the difference between an electroscope and an electrometer? Describe Coulomb's torsion electrometer.

8. Is the *contact* of an electrified body necessary for the disturbance of electrical equilibrium in another body? What is this mode of action called? Describe some illustrative experiment or apparatus.

9. What are the actions respectively of a point and a knob when presented to an electrified body? Explain the theory of this.

10. What conditions are essential to the efficacy of a lightning conductor?

11. Describe Wollaston's and Smee's Batteries, and their relative advantages or disadvantages.

12. Describe some simple cases of elecrolysis by a battery current, and the actions which take place in the battery.

13. By what means can electricity of high tension be obtained through the agency of a battery current.

14. Describe the magneto-electric telegraph, and state its advantages and disadvantages.

15. Describe the construction and uses of a thermo-electric pile.

HEAT.

1. Explain the nature of heat.

2. What is the principle of construction, and the mode of graduating a thermometer.

3. Describe the modes by which heat may be transmitted from one body to another.

4. Explain the principle involved in the selection of materials for clothing.

5. What is the specific heat of bodies? Illustrate your answer by experiments.

6. Under what circumstances does heat become latent? Give a conspicuous example of the amount of latent heat.

7. Show by an experiment that the reflection of light and of heat are analogous.

8. Explain the relations between surface and radiation.

9. State the phenomena of evaporation; and the construction of the *cryophorus.*

ASTRONOMY.

THREE HOURS ALLOWED.

1. Define the terms "Equator," "Ecliptic," "Tropics," "Polar circles," "Right Ascension," "Declination," "Meridian," "Terrestrial latitude and longitude," and "Celestial latitude and longitude."

2. Describe the Ptolemaic and Copernican systems, and state your reasons for preferring one to the other.

3. Explain the length of days and seasons at different parts of the earth.

4. Describe the Transit instrument and its use.

5. Explain the principle of Hadley's sextant.

6. Explain the equation of time.

7. Describe any physical peculiarities in the Moon.

8. What is the method of finding the time by equal altitudes?

9. The Sun's meridian altitude being observed and his declination given, to find the latitude of the place of observation.

10. Describe any physical characters of the fixed stars, milky way, and nebulæ.

11. State the laws of Kepler.

12. Describe any methods of determining the figure of the Earth.

13. Explain the Trade Winds.

14. State the law of Gravitation and its application to motion in an orbit.

15. Explain the precession of equinoxes and its physical cause.

16. State any proofs of the rotation of the earth.

17. Describe the different aspects of the ring of Saturn as seen from the Earth, and the reason of them.

18. Explain any method of determining the distance of a planet from the Sun.

19. Give a general explanation of the Tides.

20. Explain how Venus has two summers and two winters in her year.

CHEMISTRY.

THREE HOURS ALLOWED.

No Candidate is to answer more than three questions in each Division.

FIRST DIVISION.

1. What is meant by the expression "coefficient of expansion of gases?" Give numerical instances.

2. Describe the action of heat upon water in its different states.

3. A piece of stone weighs three pounds in the air, but only two pounds when immersed in water; what is its specific gravity?

4. Describe the decomposing action of light on chemical compounds, adducing instances.

5. Describe the construction of a Daniell's cell. Explain its action, and the changes which occur during its action.

6. How are metallic objects silvered or gilt by the action of galvanism?

SECOND DIVISION.

1. How is atmospheric air best analyzed? And how are its chief constituents best prepared in a state of purity?

2. How much oxygen will be necessary for the complete combustion of a gallon of marsh gas?

3. Describe the preparation of nitric acid; also its best reactions.

4. Explain the manufacture of sulphuric acid; its uses, impurities, and reactions.

5. What are the constituents of coal gas, and how are they severally detected in that mixture.

6. By what processes can the amount of nitrogen be determined in organic bodies?

THIRD DIVISION.

1. How is metallic tin prepared? How purified? Describe its chief uses.

2. A solution containing free hydrochloric acid gives a black precipitate with sulphuretted hydrogen. What may this precipitate consist of? and how would you examine it?

3. Explain the manufacture of cast-iron, wrought-iron, and steel.

4. A mixture is given containing common phosphoric acid, sulphuric acid, magnesia, and soda, dissolved in water. How would you separate these constituents and estimate them quantitatively?

5. How much silver is contained in 100 grains of the chloride?

6. Describe the manufacture of soda-ash; name its chief impurities, and explain how their percentage is estimated?

FOURTH DIVISION.

1. Describe the preparation of acetic acid; also the composition and properties of its chief compounds.

2. 100 grains of a volatile organic body yielded in combustion

193,3. gr. carbonic acid;
81,5. gr. water;

calculate the empyrical formula of the body.

3. How is the atomic weight of tartaric acid determined?

4. Describe the preparation, properties, and chief compounds of quina.

5. How is butyric acid prepared from sugar?

6. Explain the action of anhydrous sulphuric acid on olefiant gas; also the action of hydrated sulphuric acid.

ANIMAL PHYSIOLOGY.

THREE HOURS ALLOWED.

N.B.—The candidate may choose such questions from this paper as he judges he can satisfactorily answer within the time allowed; it being understood that value will be given for the fulness as well as the number of the answers, provided they are to the point.

1. Explain what is meant by a "vital property." What vital properties are recognised in the animal body, and by what phenomena do they manifest themselves?

2. Give a short account of the blood; comprehending its physical characters and chemical constitution—its corpuscles, with their differences in figure, size, and structure in different animals—the nature of the plasma, and the changes which take place in blood drawn from the vessels.

3. Point out the differences of animals and vegetables in respect of the nature of their food and mode of nutrition. Mention the chief alimentary principles contained in human food, and explain the purposes which they respectively fulfil.

4. Give a concise description of the several parts of the alimentary canal in Man, and state the chief modifications, connected with the nature of the food, which it presents in different animals. Describe more particularly the structure of the stomach in ruminating animals, and explain the process of rumination.

5. Give an outline of the structure of the chest and lungs, and explain the mechanism of breathing; state the changes which the air and blood respectively undergo in respiration, the purposes fulfilled by that function in the animal economy, and the train of consequences which follow its suppression.

6. What explanation can be given of the process of secretion? Describe the mode of construction of secreting organs in general, with the modifications of the general type in the different classes of these organs; pointing out the adaptation of structure to function, so far as it is understood.

7. Describe succinctly the structure of the human ear, and state what appear to be the most probable uses of its several parts; referring to the modifications presented by the organ in the animal series, so far as they appear to throw light on its functions.

8. Give an outline of the structure and general arrangement of the nervous system in a vertebrated animal, and compare it with that of the articulata. State briefly the functions of the nervous system.

9. State the chief points of difference between mammiferous animals and batrachian reptiles, in respect of their general economy, their principal organs and functions, and the mode of their fœtal development.

10. Explain the principle of *homology* as manifested in the construction of the vertebrate skeleton; giving examples in illustration.

BOTANY.

THREE HOURS ALLOWED.

The Candidate is not to answer more than twelve questions, which may be selected at will from the two Sections.

Section I. (for Competency.)

1. Enumerate the organs found on a perfect flowering plant.

2. Describe the most important kinds of venation of leaves.

3. Name the principal forms of inflorescence.

4. Explain the difference of structure between a double Rose and a double Dahlia.

5. Name and give examples of the different relations in which the calyx and ovary stand in flowering plants.

6. What differences do we find in the structure of the seeds of the Oat, Bean, and Linseed?

7. By what characters can you distinguish Hemlock (*conium maculatum*) from any other native plant?

8. Give a short character of the order Cruciferæ.

9. Give a short character of the order Leguminosæ.

10. How do you know Malvaceæ from any other native plants?

11. Refer the following plants to their respective natural orders:—Strawberry, Sweet-pea, Fuchsia, Monkshood, Tulip, Crocus, China Aster, Thyme, and Celery.

12. State what you know of the functions of the different organs of flowering plants.

Section II. (for Proficiency or Excellence.)

1. Explain the morphological connection of the organs of flowering plants.

2. State the general rules upon which the classification of the forms of leaves is founded.

3. Explain the relations of the different forms of the indefinite type of inflorescence.

4. Give an outline of the general principles of the morphology of flowers.

5. Describe and explain the various conditions of the calyx and ovary in the Rosaceæ, (including the Pomeæ and Amygdaleæ.)

6. Describe minutely the ovule and ripe seed of any plant with which you are acquainted.

7. Mention and give the essential characters of the poisonous Solanaceæ found wild in Britain.

8. Name an order which has the following character:—sepals, petals, and stamens 4—8 or 5—10, corolla monopetalous, stamens hypogynous, anthers opening by pores, ovary superior, many-celled, many-seeded.

9. Name an order which has sepals and petals four or five, stamens indefinite, inserted on the calyx, ovaries composed of more or less distinct carpels more or less superior or inferior.

10. State the differences between Linaceæ, Malvaceæ, and Geraniaceæ.

11. Name the native plants cultivated for food belonging to the orders:—Cruciferæ, Umbelliferæ, Rosaceæ, Compositæ and Liliaceæ.

12. Give a brief outline of the principal chemical and physiological phenomena occurring in the growth of ordinary green plants.

AGRICULTURE.

[No paper was set in this subject, as no candidates appeared in it this year.]

POLITICAL AND SOCIAL ECONOMY.

THREE HOURS ALLOWED.

Each of the four following questions should be answered.

1. Show the way in which the division of labour increases the productive powers of man.

2. What is fixed Capital? and what is circulating Capital? and of what does each consist?

3. Define Rent, Interest, and Profit.

4. Describe a Bill of Exchange and its origin.

The four following are optional Questions.

1. Does Rent enter into the price of Commodities?

2. In what way does a Bill of Exchange differ from money?

3. In what way does an increase of money affect prices?

4. What are the advantages and disadvantages, with respect to the production and preservation of wealth, of the system which gives to the oldest son of a family the whole of its Landed Property?

DESCRIPTIVE GEOGRAPHY.

THREE HOURS ALLOWED.

The Candidate is only allowed to answer one half of the total number of questions in each Section.

Section I.

1. Name the county in which each of the following towns is situated:—Huddersfield, Axminster, Maidstone, Wells, Merthyr Tydvil, Grantham, Kidderminster, Stoke-upon-Trent, Wrexham, Lewes, Penzance, Aberystwith, Rochdale, Stockport, Paisley, Glasgow, Leith, Dundalk, Belfast, and Coleraine.

2. Enumerate the principal seaports that would be successively passed in making the circuit of the Mediterranean coasts, beginning at the Strait of Gibraltar. Mention the country to which each belongs.

3. Draw up a table of the political divisions of Italy, giving the capital, and the principal seaports, of each.

4. What is meant by the "overland" route to India? State the general course which a person going from England to India by this route would take, and name the places that constitute the chief stations on the journey.

4. Name, in geogaphical succession, the principal towns passed in ascending the stream of the Ganges, from the Bay of Bengal to the Himalaya mountains.

6. Draw up a list of the British Colonies and Dependencies in North America (exclusive of the West Indies), and give the principal towns of each.

7. Name eight among the largest cities of the United States, giving the position (whether on any river, or otherwise) of each, and the State in which it is situated.

8. From what countries does Britain derive her chief supply of the following articles:—Cotton, indigo, coffee, sugar, wool (sheeps'), tallow, and hides?

9. On what rivers are the following towns situated:—Turin, Prague, St. Petersburg, Stettin, Belgrade, Lucknow, Delhi, Cawnpore, Ava, Cincinnati, New Orleans, and Melbourne?

10. Where are the following seaports:—La Guayra, Callao, Kurrachee, Beyrout, Point de Galle, Akyab, Valparaiso, Charleston, Mobile, Quillimane, Bahia, D'Urban, Maulmein, and Tranquebar?

11. Name the colonial possessions and foreign dependencies of any one of the following States:—

(*a*) France.
(*b*) Holland.
(*c*) Denmark.

12. Draw a map to show the situation (with reference to adjacent geographical features) of any one of the following cities:—St. Petersburg, Vienna, Lisbon, or Constantinople.

Section II.

13. Draw a map of any one of the undermentioned countries,—marking on it the chief mountain-ranges, plains, and rivers, with the positions of the principal seaports:—

(*a*) France.
(*b*) Italy.
(*c*) China.

14. Draw a map of your own country, marking on it

the prominent features of surface, the river, and the sites of the principal towns.

15. Draw up a table of the political divisions of Europe, arranging the various countries under the head of empires, kingdoms, grand-duchies, &c., and naming the capital of each.

16. What territories are comprehended under the appellation of British India? Draw up, as well as you are able, a table of the different countries or provinces which it embraces, with the principal towns in each.

17. Enumerate the possessions of Britain upon the West Coast of Africa, to the northward of the equator, mentioning their characteristic articles of native produce, and the names of the chief seats of trade.

18. What constitute the principal commercial productions of the East Indian Archipelago, and between what nations is the traffic in them chiefly maintained.

19. In what parts of Great Britain and Ireland are the manufacture of textile fabrics (cotton, woollen, linen, and silk), and of hardware goods, chiefly carried on? (Specify the localities according to counties, and name the towns which are the more special seats of each manufacture.)

20. Draw up a table of the States and Territories that are comprised within the North American Union (United States), arranging them according to their position along the Atlantic coast—within the Valley of the Mississippi, or beyond the Rocky Mountains.

21. Enumerate, in the order of their respective settlement (according to priority of date), the Australian Colonies of Britain, with the chief towns of each.

22. Taking the total population of the globe at a thosand millions, of what amounts are respectively (in round numbers) the inhabitants of Europe, Asia, Africa, and America? In which of these divisions is the population, relatively to extent of surface, most dense?

23. Give a brief account of any one of the undermentioned British Dependencies, with reference to geographical position and features, commercial importance, and circumstances of acquirement by Britain:

(a) Gibraltar.
(b) Malta.
(c) Hong-Kong.

24. Indicate, by reference to modern localities to which their remains are proximate, the situation of the following cities of antiquity:—Nineveh, Babylon, Thebes, Memphis, Carthage, and Petra.

PHYSICAL GEOGRAPHY, INCLUDING GEOLOGY.

THREE HOURS ALLOWED.

Candidates are not to answer more than twelve questions in this paper.

SECTION I.

1. Give a brief account of the chief physical features of the county in which you live.

2. Name the chief headlands, inlets, and mouths of rivers, of one of the following coast-lines:—

(a) From the mouth of the Ouse to that of the Stour.
(b) From St. Bee's head to Hartland Point.
(c) From Malaga to Leghorn.

3. Describe the course of one of the following rivers from its source to its mouth, noticing the principal tributaries, the nature of the country drained by it, and any other particulars of importance:—

(a) The Trent.
(b) The Ganges.
(c) The Po.
(d) The Orinoco.

4. Write a short account of the Physical Geography of one of the following countries:—

(a) France.
(b) Spain.
(c) Egypt.
(d) New Zealand.

5. Under what heads may lakes be classified? Briefly describe any two of the following—(a) Lake Baikal; (b) the Dead Sea; (c) the Lake of Titicaca; (d) the Lake of Constance; (e) Windermere; (f) Loch Fyne.

6. Define a line of watershed. Describe as nearly as you can the line which separates the Eastern drainage of England from the Western.

SECTION II.

7. Describe the principal currents of one of the oceans. To what great causes are the ocean currents attributed.

8. What is an Isothermal line? What are the causes which prevent the Isothermal lines from coinciding with the parallels of latitude on the surface of the globe?

9. Give some account of the Monsoons. What appears to be the cause of them?

10. What is meant by a map of cotidal lines? To what use may such a map be applied?

11. Name the chief ranges of mountains and hills in Great Britain, and state the predominating geological character of each.

12. From what geological formations, and from what counties, do we obtain our chief supply of the following substances:—gypsum, tin, zinc, copper, common salt?

13. What is the probable origin of coal? What are the evidences of this origin? Name the chief varieties of coal. To what special uses is each variety applied?

14. Name, or exhibit in a map, the chief coal-fields of England and Wales, distinguishing those that are most important, and those which produce most iron. Which of the British Colonies produce coal?

15. Into what great geological regions may Scotland be divided? Can you connect this division with the different pursuits and characters of the inhabitants?

16. Give some account of the most remarkable extinct saurian animals, mentioning the formations in which their remains are found.

17. Explain the difference between valleys of elevation and valleys of denudation.

18. Describe, or show by a map, which are the great volcanic regions of the globe. What are the chief mineral products of volcanic districts?

19. Write an account of, or illustrate by a map, either (a) the distribution of the most valuable domesticated animals, (b) that of the most important kinds of grain, or (c) that of the most useful fruits.

20. Give a short description of the varieties of the human race and of their geographical distribution.

ENGLISH HISTORY.

THREE HOURS ALLOWED.

You are to answer the whole, or as many as you can, of the eight following questions.

1. Whom did Edward the Confessor succeed on the throne of England? Who were the claimants to the throne after the death of Edward the Confessor? How, when, and where did each of those claimants die?

2. Give a short account of Wat Tyler's insurrection.

3. Write down the names of our principal Statesmen, and Military and Naval Commanders during the reign of Queen Elizabeth.

4. Mention the names of the Sovereigns of the House of Stuart who have reigned in England; and give, as nearly as you can, the dates when the reign of each commenced, and when it ended.

5. When was the Bill of Rights passed? What does it enact about Standing Armies?

6. Mention the names of the most eminent English writers who flourished during the reign of Queen Anne.

7. What Countries and places, beyond the British Islands, were parts of the Dominions of George the Third, at the time of his Accession?

8. In what reign, and against what enemy was each of the following battles fought?

Agincourt,
Bannockburn,
Blenheim,
Bovines,
Crecy,
Dettingen,
Flodden,
Fontenoy,
La Hogue,
Plassy,
Quebec,
Wandewash.

You are to answer any four, or as nearly four as you can, of the following eight questions.

You are to select those which you think yourself best able to answer fully.

No marks will be obtained by answering more than four.

1. State and explain the chief Articles of the Treaty of Utrecht; and give a brief account of the English Ministers by whom it was concluded.

2. State and explain the chief provisions of the Act of Settlement; and give a brief account of the origin and functions of the Privy Council.

3. What is meant by a Writ of Habeas Corpus? Cite the words of the Great Charter which affirm the principle on which it is founded. How was its operation secured and extended by the Habeas Corpus Act, in the reign of Charles II.? Cite instances of the suspension by Parliament of the Habeas Corpus Act.

4. Describe the origin and growth of our Hereditary Peerage, comparing it with the Noblesse of France; and give a brief account of the attempt made in the reign of George I. to limit the Royal Prerogative of creating Peers.

5. Quote the words of the Great Charter which affirm the principle of Trial by Jury. In what respect did the functions of the ancient Juries differ from those of modern Juries? Give a brief account of the arguments and judgment in Bushel's case, in the reign of Charles II., as to the legality of fining Jurymen for a perverse verdict.

6. What are the chief distinctions between a Parliamentary Impeachment and a Bill of Attainder? Give a brief account of the proceedings against Lord Strafford, Sir John Fenwick, Lord Somers, and Lord Oxford.

7. Trace in the Great Charter of John, and in the Statute of Edward I., entitled "Confirmatio Cartarum," the early indications of the principle that Taxation without Parliamentary consent is illegal. Show how this principle was affirmed and extended by the Petition of Right. Show how the mode in which the Appropriation Acts have been passed since 1688 has increased the control of the House of Commons over the executive power.

8. What were the conflicting claims of the American Colonists, and of the Crown, which led to the American War? State the general distinctions between the Constitutional rights of British subjects, who form a Colony in a Country previously uninhabited by a civilised race, and the rights of those who settle in a Dependency which the Crown has acquired by conquest or cession from other Powers.

(*To be continued.*)

UNIVERSAL CURRENCY.

A plan for a universal currency has been published in a pamphlet, by Mr. T. A. Tefft, who is at present in this country, prosecuting inquiries as State Commissioner of Industrial Art Education for Rhode Island, United States. Mr. Tefft's plan is to bring the French, the American, and our own currency into accord with each other, and this he considers, for all practical purposes, solves the question of a universal currency. In his pamphlet he addresses himself to the answering the following questions:—

"What unit is best suited to an universal currency?

"What shall be the coins above, and the divisions below, the unit?

"What shall be the standard weight and fineness?"

He says:—"In seeking for a unit as a basis of this general system, it is important to select one that already exists in a large and increasing currency, if such an one can be found to answer the purposes best, and render the recoinage necessary on about the same conditions in each of the three countries. It is also desirable to select a medium unit between the extremes which exist, if this is practicable.

"The unit of the dollar will be found to answer those conditions.

"It already exists in a coinage of five hundred millions, is of ancient origin, is best known in the different quarters of the globe, has its counterpart in the Italian and Spanish currencies, and it is the intermediate unit between the franc and the pound.

"I propose, then, the dollar as the universal unit.

"Its value to be exactly the same as five francs of the French, or four shillings of the English currency, under the new system. This unit of the currency, the dollar, to exist only in the gold coin; no silver coinage allowed in pieces larger than fifty cents, or half-a-dollar.

"The pieces of coinage to be—

In Gold......	1	dollar, or the unit.	
	2½	dollars.	
	5	,,	the present sovereign.
	10	,,	the new sovereign, the Napoleon or eagle.
In Silver ...	50	cents.	
	25	,,	the English shilling.
	(20	,,	the franc, for France only.)
	10	,,	
	5	,,	
In Copper...	2	,,	the English penny.
	1	cent,	the French sou.
	½	,,	or 5 mils.
	(¼	,,	or 2½ ,, for England.)
	(⅕	,,	or 2 ,, for France.)

"For the standard in weight, I propose the French coinage—the only coinage based on a decimal weight, with a very slight change—in order to have the dollar, 1·6 grammes, a simple quantity, instead of the present fractional weight of five francs in gold, 1·6129; and the weight of the dollar in silver, 22·5 instead of 25 grammes, the present weight of five francs. Then the ratio between the two metals would be 14·0625. This would scarcely disturb the gold standard in France and England, and merely raise the value of silver in France to its corresponding value to gold in England and America.

"All gold and silver coinage to be nine-tenths fine.

"The copper coin—the coin of greatest token value—to be of the same mixture as now used in France, viz., 95 copper, 4 tin, 1 zinc, and the same weight.

"This mixed copper coin would then have, for the same value, only about half the weight of the copper coin now used in England and America.

"The national pieces of gold coin, the Napoleon, the sovereign, and the eagle, should each be 10 dollars, the largest piece of coinage. This would simply require the name sovereign to be applied to double its present value, and the application of the name Napoleon to 50 instead of 20 francs, as at present, the application of these names being purely conventional. These pieces should have the national arms, in place of the numerical value, stamped upon all the other coins, opposite the medallion side, thus giving to the largest pieces of coinage the greatest nationality, and occasion for the highest artistic treatment.

"In silver, the English shilling would be 25 cents, and the florin would be 50 cents, the largest silver piece in the new currency. In France, the five-franc and two-franc pieces would be dispensed with, and the half-dollar employed in their stead. The franc would be retained, from its long-established name and associations, as 20 cents, instead of dividing the half-dollar into quarters, as in England and America.

"In copper coin, the two-cent piece, the same as the ten-centime piece now used in France, would be the penny in England; and the cent, or centime, as it would be called in France, would be equal to five centimes of the present French money, or nearly the halfpenny in England. The half-cent would represent the farthing, and the quarter-cent, or 2½ mil-piece, would be required to make the exact change for sixpence and threepence of the present English money; while the one-fifth cent, or 2 mils, would be precisely the same as the present centime in France.

"In this re-stamping of money, the French coins now issued should be regarded as the models of taste and excellence.

"Under this plan, then, the proposed coinage would have in each country the same unit, the same weight, the same fineness, and the same decimal divisions, thus: 10 mils = 1 cent, 100 cents = 1 dollar; 10 dollars being 1 sovereign, Napoleon, or eagle.

"In this manner, the national types of coins, the shilling and the franc, which usually take a strong hold on the people, and the names partaking of individuality and pride, the Napoleon, the Sovereign, and the Eagle, would be retained; and it is fair to suppose, that the intermediate and the ancient unit of the dollar would be recognised as more convenient than the unit of any other currency.

"In the following tables may be seen the present currencies of France, England, and America, with their fineness and weights, and the proposed universal currency. Also, a comparison between the standard weights of the principal coins, as they now are, and as proposed in the universal currency.

PRESENT CURRENCY.

FRANCE.

The unit, 1 franc (100 centimes).

	Coins.	Weight in Grammes.		Troy Grains
Gold, $\frac{9}{10}$ fine.	5 francs	1·6129		24·8914
	10 ,,	3·2258		
	20 ,,	6·4516		
Silver, $\frac{9}{10}$ fine.	5 ,,	25		385·85
	2 ,,	10	2½ francs...	192·925
	1 ,,	5		
	50 centimes	2·5		
	20 ,,	1		
Copper, ,, 95 Tin 4 Zinc 1	10 ,,	10		
	5 ,,	5		77·17
	2 ,,	2		
	1 ,,	1		

GREAT BRITAIN.

	Coins.		Troy Grains.
Gold, $\frac{11}{12}$ fine.	10 shillings		61·637
	20 ,,	sovereign	123·274
	40 ,,	double sovereign	246·548
	100 ,,	five pounds	616·372
Silver, $\frac{37}{40}$ fine.	5 ,,	crown	436·364
	2½ ,,	half-crown	218·182
	2 ,,	florin	174·545
	1 shilling		87·273
	6 pence		43·636
	1 penny		7·273
Copper.	1 ,,		291·667
	½ ,,		145·833
	¼ ,,		72·917

UNITED STATES.

Gold, $\frac{9}{10}$ fine.	1 dollar, the unit (100 cents)	25·8
	2½ dollars	64·5
	3 ,,	77·4
	5 ,,	129·
	10 ,, the eagle	258·
Silver, $\frac{9}{10}$ fine.	1 dollar	384·
	50 cents	192·
	25 ,,	96·
	10 ,,	38·4
	5 ,,	19·2
Mixed	3 ,,	
Copper.	1 cent	168·
	½ ,, or 5 mils	84·

PROPOSED UNIVERSAL CURRENCY.

The unit, 1 dollar (100 cents).

	Coins.		Weight in Grammes.	Troy Grains.
Gold, $\frac{9}{10}$ fine.	1 dollar		1·6	24·6944
	2½ dollars		4·	
	5 ,,		8·	
	10 ,,	sov., Nap., or eagle	16·	
Silver. $\frac{9}{10}$ fine.	50 cents,	half dollar	11·25	173·6325
	25 ,,	¼ dol., shilling	5·625	
	(20 ,,	franc, for France	4·5)	
	10 ,,		2·25	
	5 ,,		1·125	
Copper, ,, 95 Tin 5 Zinc 1	2 ,,	(penny)	10·	
	1 cent	(sou)	5·	77·17
	½ ,,	5 mils	2·5	
	,,	(2½ ,, for England	1·25)	
	,,	(2 ,, for France	1·)	

Comparison between the Standard Weight of Coins as they now are, and the Proposed Universal Currency.

	Present Weight in Troy Grains.		Proposed Weight in Troy Grains.	Proposed Weight in Grammes.
GOLD.				
5 francs ($\frac{9}{10}$)	24·8914 *	1 dollar =	24·6944	1·6
4 shillings ($\frac{11}{12}$), $\frac{1}{54}$ added for diff. in fineness	25.1114			
1 dollar ($\frac{9}{10}$)	25·8			
SILVER.				
2½ francs ($\frac{9}{10}$)	192·929	½ dollar =	173·6325	11·25
2 shillings ($\frac{37}{40}$), $\frac{1}{36}$ added for diff. in fineness	179·393			
½ dollar ($\frac{9}{10}$)	192·			
COPPER.				
1 sou, or 5 centimes	77·17	1 cent =	77·17	5·0
½ penny	144·833			
1 cent	168·			

* The new five-dollar piece ... ... 123·472 grains troy.
Present sovereign ... ... 123·274 ,,

"I am perfectly aware that the plan I have here proposed for attaining an universal currency is novel and bold; but I feel quite confident that some plan like this must be employed to accomplish this much desired result.

"Here are three great countries, with their established currencies interwoven with all their pleasure and business habits; each country has its prestige and its pride; and, notwithstanding the advantages to be derived from a common currency may be well understood and acknowledged, yet, it is not at all probable that any two of these countries would adopt the entire system of the third. The French are satisfied with their system; the Americans with theirs; and the English, unless some arrangement like the above succeeds, are likely to have a third decimal system, with the pound sterling for the unit. This has been recommended by the last parliamentary committee appointed to report on the subject; and any one at all familiar with the English character would expect no other result. In no nation of the world is there more reason for pride and love of country than in Great Britain. To entirely change the currency in such a country would be impossible. The most that could be expected, would be the adoption of a more convenient unit, with decimal divisions and decimal weight, employing at the same time its most familiar type of coin," the shilling.

The silver coinage would have to be adjusted for the change of standard fineness. A gold standard is to be adjusted by the three nations, and silver is to be "no longer a legal tender for more than ten dollars in amount." To carry out the system Mr. Tefft says:—

"Let a commission be appointed by the British Parliament, one by the French Emperor, and one by the American Congress, to meet in convention at Brussels, during the coming year, in order to determine upon some plan like the above; and the first practical step will have been taken. Such a convention, if composed of judicious men, would undoubtedly determine upon a mode of introducing the universal currency, that would meet with general approval, and, by means of international treaty, be adopted by the different governments."

RAILWAY ACCIDENTS IN FRANCE AND ENGLAND.

The following has been received from the editor of the *Mechanics' Magazine*:—

"From an interesting article which recently appeared in the Paris *La Patrie*, setting forth many important facts respecting accidents on the French railways,—which are, of course, more immediately under the control of the State than the English,—we learn that a commission has presented to the Emperor a volume entitled 'Enquête sur les moyens d'assurer la régularité et la sûreté de l'exploitation sur les chemins de fer,' containing the results of examinations of officials from the railways du Nord, de l'Est, de Paris à Lyon, de Saint Germain, de Paris à Rouen, au Havre et à Dieppe, de l'Ouest, du Grand Central, and de Sceaux et Orleans. The volume is but preliminary, and is to be followed by others giving still more extensive results. The following facts are derived from it:

"Between the 7th September, 1835, and the 31st December, 1856, the number of railway passengers in France was 224,345,769. Of this number 1,979 were injured, and 999 killed—in all, 2,978. It is worthy of remark that of these accidents 1,134 only—334 killed and 800 wounded—arose from defects in the working of the railways; while 1,844—665 killed, and 1,179 wounded—resulted from individual imprudences which were not attributable in any degree to the railway companies. Taking away the agents and servants of the companies, the number of passengers killed by the working of the trains is but 111, that is 1 in 2,021,133; and of passengers wounded, 402—1 in 558,074.

"These facts speak much in favour of the working of railways in France, and present new inducements for us in this country to give the railway system at home more serious attention than has yet been bestowed upon it. We mention this, because it is becoming more and more apparent to us that the mitigation and prevention of accidents upon railways are left too exclusively in the hands of railway companies, and require a new form of public opinion to be brought to bear upon them. It is true that this subject is frequently brought before our professional institutions, such as the Institution of Civil Engineers, the Institution of Mechanical Engineers, &c.; but many of the members of these institutions have so direct an interest in the preservation of the existing railway systems, or in the furtherance of special schemes of improvement, that the matter does not, we think, there meet with the full and unprejudiced discussion which it deserves. For this reason we think it desirable that some more independent society, such as the Society of Arts, for example, should give its attention to it; and, although it might fail to deal fully with all the technical points of difference which might arise, it could certainly collect such facts and opinions as would speedily bear fruit in increased safety of railway transit."

SOUTH KENSINGTON MUSEUM.

During the week ending 17th July, 1858, the visitors have been as follows:—On Monday, Tuesday, and Saturday (free days), 4,201; on Monday and Tuesday (free evenings), 4,895. On the three Students' days (admission to the public 6d.), 702; one Students' evening, Wednesday, 157. Total, 9,955.

Home Correspondence.

LONDON MECHANICS' INSTITUTION.

Sir,—The Committee of the London Mechanics' Institution have published a communication which goes upon the assumption that they are subjected to a very unfair competition with regard to other Institutions.

The high class and cheap instruction of Government Institutions, and the necessity for well-paid professors to make the instruction in Mechanics' Institutions efficient, is quite a delusion. The only Government Institutions to which these remarks can possibly apply, are the South Kensington Museum and the School of Mines. At South Kensington a man may possibly learn much more with his eyes than he could with his ears at Southampton-buildings, but the teaching of a well-arranged museum is not what is generally understood by the class instruction of a Mechanics' Institution, nor is there any fair comparison when one is shown against the other. The teaching by objects in a museum is a mere expansion of a Pestalozzian lesson; it is a kind of teaching best adapted to the educational condition of the people. The masses have not yet risen above material forms, and if you interest them at all, it is by things, and not words.

But look at the cheap lectures at South Kensington and Jermyn-street by well-paid professors; how is the London Mechanics' Institution to compete against these? Crosby Hall, the Working Man's College, the Evening Classes at the Polytechnic, the Mechanics' Institutions of Huddersfield and Leeds, have competed successfully against Government Institutions. The results of the last examination will show what Mechanics' Institutions can do, if they have only the spirit and will to do it.

I cannot speak positively on this subject, but I should think the evening lectures at Kensington and Jermyn-street were never intended to supply the regular systematic teaching of a well-arranged class. Who ever heard of a man becoming a physicist by attending six lectures at Jermyn-street, or a comparative anatomist by attending one lecture of Professor Owen's at South Kensington. It is scarcely fair to draw any comparison between the advantages which the graduates of the London University, or the matriculated students of Jermyn-street, enjoy over those who usually attend the classes of a Mechanics' Institution. The students in the one case are studying for a distinct and specific object; in the other it is to improve and remedy in some degree the defects of a neglected education. The subjects usually taught in a Mechanics' Institution are elementary; the subjects taught at Jermyn-street are technical. Too much stress is laid upon lectures. A man may attend lectures till he grows deaf and stupid. Lectures and examinations are but the instruments of education. The work, if it is to be done, must be done by the unwearied diligence and determined spirit of the student. Lectures are a valuable means of education; they indicate the road that has to be travelled, soften difficulties, and prevent useless and desultory reading. But to suppose well-paid professors are best suited for this work is against all my experience. Oxford and Cambridge men rarely succeed as good teachers of the working classes. Depend upon it the best educators are the best men taken from the class they have to educate. A good elementary schoolmaster, who understands his subject, is the best man for Mechanics' Institutions. If committees fall into the notion that well-paid professors are necessary for these classes, then there is an end to all class teaching in Mechanics' Institutions. My experience is rather against the opinion that these classes can be made self-supporting. A low fee for attendance, the expense of apparatus and rent, would leave but a small sum for the teacher. Some pecuniary aid on tested results would, perhaps, be the easiest and best method of assistance.

I should regret the failure of an Institution which has done much good. For years this Institution did its work well; and I have found in almost every part of the country men who have attributed their success in life to the lectures and class instruction of the London Mechanics' Institution. I am, &c., C. B.

Proceedings of Institutions.

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Kingston.—The last report of the Mechanics' Institute states that its success has much exceeded that of any former year, and has far surpassed the expectations of its most sanguine supporters and friends. The Institute was established in October, 1852, its design being the rational entertainment of the members and the more general diffusion of useful knowledge by means of lectures and discussions on subjects of general interest; the establishment of a library and reading room and classes for mutual instruction amongst the members. Since the first formation of the Institute, a library of one thousand volumes has been collected. During the past year upwards of six hundred volumes have been added, an entire re-arrangement has been made, and a catalogue printed. At a Special General Meeting of the members, held on 30th December last, it was resolved, "That a donation of five pounds should entitle the donor to a life membership of the Institute."—The balance sheet shows that during the past year the donations of life members have added fifty pounds to the income. The county magistrates have kindly granted the grand jury room to be used by the members of the Institute, as a reading room, from 6 till 10 o'clock in the evening, daily (Sundays excepted). A drawing class has been conducted by three members of the committee, which, with the other classes for instruction, will be again opened during the ensuing session. The committee thank Messrs. Hayes, Reah, and Scrimgeour, for their exertions and attention to the drawing class. The president and Dr. Ellis, (a vice-president), kindly consented to represent the Institute at a local board of examiners formed by representatives from the Kingston, Richmond, and Brentford Institutes, for the purpose of examining candidates for the prizes and certificates offered by the Society of Arts. During the past session the following lectures have been delivered:—J. M. Clabon, Esq., "More Worlds than One," (two lectures); Ditto, "An Evening with the English Poets;" Professor Griffiths, "Experimental Chemistry;" A. J. Johnston, Esq., "Self-Educated Men;" W. Duncan, Esq., "Rambles on the Rhine;" Colman Burroughs, Esq., "English Journals and Journalism;" Mr. John Collings, "India" (three lectures); Mr. Hogg, "British Workman;" Mr. Strachan, "Artificial Light;" Mr. Fairbairn, "A night wi' Burns." There have also been soirées, comprising musical entertainments by the members, and a concert. The lectures (with one exception) were delivered gratuitously, and the attendance of members and friends was uniformly large. The committee gave free admission to a large number of working men who were not members of the Institute, which act of liberality has been much appreciated. The present state of the funds is very encouraging. The receipts by subscriptions and donations, and for admission to lectures, for the year ending the 24th June, 1858, amount to £163 17s. 11d.; the expenditure for the same time being only £82 14s. 1d., leaving a balance of £81 3s. 10d. in favour of the operations of the Institute for the past year. This balance has been applied towards the liquidation of a debt of £135 11s. 9d., due by the Institute, which had accrued from time to time during the period from 1852 to 1857. The committee take great encouragement from the much improved state of the library, and steady increase of the funds, arising from the yearly subscriptions of the members themselves. They rejoice to find that the number of 115 members at the commencement of the year, has been increased to 272. The committee desire to tender, in the name of the members, their warmest thanks to J. M. Clabon, Esq., the president, for his continued and unwearying interest in the prosperity of the Institute; to His Royal Highness the Duke of Cambridge, and the noblemen and gentlemen who have become patrons and vice-presidents; to the friends who have delivered lectures, and to those who have kindly contributed to increase the library by their gifts of many valuable books, and to all the elected officers for the efficient discharge of their honorary duties, during the season now closed.

Lockwood.—Through the kind permission of J. W. Crosland, Esq., the members and friends of the Mechanics' Institution held a *gala* in the park of Thornton Lodge on Saturday, the 10th inst. There were about 1,000 persons present. Among others were J. W. Crosland, Esq., and Mrs. J. W. Crosland, T. P. Crosland, Esq., J.P., Rev. T. B. Benster, M.A., Bentley Shaw, Esq., J.P., President of the Institution, and Mrs. Bentley Shaw. All present seemed to enjoy themselves, and it is satisfactory to be able to report that so much pleasure was not unattended with some degree of pecuniary profit to the Institution.

Nailsworth.—The Members of the Literary and Mechanics' Institute made an excursion to Tortworth Court, the seat of Earl Ducie, on Tuesday, the 13th instant. The number present amounted to upwards of 170. Several spring waggons were lent for the occasion by Mr. W. Holmes, and they were horsed by Mr. Brooks and Mr. Clissold. Lord Ducie having kindly granted the use of his park, the party, after dining under the trees, amused themselves by visiting various parts of the grounds, rowing on the lake, playing quoits, cricket, &c.

PARLIAMENTARY REPORTS.

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PRINTED SESSIONAL PAPERS.

Parl. No.

Delivered on 14th July, 1858.

412. Destitution (Gweedore and Cloughnaheely)—Report from Committee.
343. Oxford University—Report of the Commissioners.
403. Metropolis Drainage—Return.
185. Bills—Leasing Powers (Ireland).
194. ——— Law of False Pretences Amendment.
195. ——— County Court Districts.
196. ——— Church Rates Commutation.
197. ——— Sheep, &c., Contagious Diseases Prevention.
198. ——— Ecclesiastical Jurisdiction Continuance.
199. ——— Charitable Trusts Acts Continuance.
200. ——— Turnpike Trusts Arrangements.
201. ——— Copyhold and Inclosure Commissions, &c.
202. ——— Indemnity.
203. ——— Sale of Poisons, &c.
204. ——— Cornwall Submarine Mines.
205. ——— Ecclesiastical Commission.
206. ——— Army Service.
207. ——— Inclosure of Lands.
208. ——— Markets and Fairs (Ireland) (as amended by the Select Committee).
Poor Law Board—10th Annual Report.

Delivered on 15th July, 1858.

162. Estimates for Civil Services—General Abstract.
162 (7) (1). General Board of Health—Estimate.
411. Railway and Canal Legislation—Report from Committee.
426. Army (Barracks)—Supplementary Estimate.
427. Army (Survey of the United Kingdom, &c.)—Supplementary Estimate.
428. Militia Estimates—Report.
379. British Museum—Return.
209. Bills—County, &c., Property Conveyance (amended).
210. ——— Jews.
211. ——— Oaths—Lords' Reasons for insisting on their Amendments.
212. ——— Returns to Secretary of State.
218. ——— Turnpike Acts Continuance.

Delivered on 16th July, 1858.

369. War Department—Copies of Correspondence (a corrected Copy).
390. British Museum—Returns.
410. Slave Trade (Cuba)—Return.
422. Militia (Volunteers)—Return.
Fisheries (Ireland)—Report of the Commissioners.

Delivered on 17th and 19th July, 1858.

391. East India (Sunday Trains)—Copy of Correspondence.
395. Poor Law (District Schools)—Return.
396. Poor Relief (Wick)—Return.
405. Chamber of London—Annual Accounts.
408. East India (Alumbagh)—Return.
409. Constabulary and Revenue Police (Ireland)—Return.
417. Foreign Office Re-construction—Report.
418. Contracts (Public Departments)—4th Report.
421. Friendly Societies (Scotland)—Report by the Registrar.
423. Iron Ordnance Factory (Woolwich)—Returns.

432. Stevens' Regulating Air Doors—Copy of Report.
351. Finance Accounts—Classes 1 to 8.
215. Bills—Wine, &c.—Ireland.
216. ——— Metropolis Local Management Act Amendment.
218. ——— New Writs (amended).
217. ——— Evidence on Oath (Private Bill Committees).
219. ——— Corrupt Practices Prevention Act Continuance (amended).
220. ——— Universities and College Estates (Lords Amendments).
221. ——— Incumbered Estates (West India) Act Amendment.
222. ——— Marriages (Moscow, Tahiti, and Ningpo).

Delivered on 20th July, 1858.

381. Bank Acts—Report from Committee.
425. Army in the East—Dr. Mapleton's Report.
439. Appropriation Bill—Copy of Correspondence.
440. Carlisle Diocese—Returns.

PATENT LAW AMENDMENT ACT.

APPLICATIONS FOR PATENTS AND PROTECTION ALLOWED.

[*From Gazette, July* 16, 1858.]

Dated 29th May, 1858.

1218. J. Schloss, 75, Cannon-street West, City—A so-called book clasp, or improved fastening of books, being also applicable to pocket-books, ledgers, blotting cases, and similar articles where locks, bolts, or clasps are employed.

Dated 8th June, 1858.

1290. W. Clark, 53, Chancery lane—The manufacture or preparation of extract of Peruvian guano. (A com.)

Dated 10th June, 1858.

1320. W. Davis, Loveday-street, Birmingham—Certain imp. in the tangs of awls, also in the mode of manufacturing awl-blades, or similar articles, and likewise in the stocks or pads for holding the same.

Dated 12th June, 1858.

1338. W. Clark, 53, Chancery-lane—A new treatment or preparation of a vegetable product, and its application as a fibrous or textile material. (A com.)

Dated 18th June, 1858.

1377. W. Blizzard, 14, Victoria-terrace, Ladbroke-road, Notting-hill—Imp. in india-rubber, gutta percha, and drying and other oils.

Dated 24th June, 1858.

1425. P. Griffiths, Manchester-road, Burnley, Lancashire—Imp. in the manufacture of shaft couplings.
1427. J. Robinson, East India-road—Imp. in applying and adapting water-closets to ships, so as to ensure the safety and more perfect ventilation of the same.
1429. J. H. Johnson, 47, Lincoln's-inn-fields—Imp. in machinery or apparatus for making bolts and rivets. (A com.)
1430. B. Pickering, Lockerbie, Dumfries, N.B.—Imp. in apparatus for communicating signals from one part of a railway train to another.

Dated 25th June, 1858.

1433. C. Nightingale, Wardour-street, Soho—Imp. in apparatus applicable to curling and spinning machines for horse-hair and other materials.
1435. R. Smith, 45, Essex-street, Strand—Imp. in fire-arms and ordnance, and in the projectile to be used therewith.
1437. J. Westwood, London-yard, Isle of Dogs, Poplar—Imp. in the plating of ships and floating and other batteries, to render the same shotproof.

Dated 26th June, 1858.

1439. P. M. Crane, Irish Peat Company's Works, Athy, Ireland—Imp. in the manufacture of fuel from peat.
1441. W. L. Tizard, Mark-lane—An improved method of treating brewers' and distillers' malt or grist.
1443. W. Woofe, Gloucester—Imp. in implements for paring, hoeing out, and clearing land, and for depositing seed.
1445. T. V. Flinn, Edward's-place, Deynesford-road, Camberwell-green—Imp. in sash-bars, for the purpose of drainage.
1447. E. Pinchon and W. R. Harris, Elbeuf, France—Imp. in machinery for manufacturing healds or harness used in looms for weaving.
1449. W. H. Preece, 7, Bernard-street, Primrose-hill, and J. L. Clark, Adelaide-road, Haverstock-hill—Imp. in electric telegraphs.

Dated 28th June, 1858.

1451. I. Hammond, Winchester—Drawing the cartridge case from the barrel of a breech-loading gun.
1453. J. Lui-, 13, Welbeck street, Cavendish-square—An improved machine for reaping corn. (A com.)
1455. G. Morris, Regent-street—An imp. in shirt and other collars.
1457. C. W. Siemens, John street, Adelphi—Imp. in cleansing tidal rivers
1459. W. E. Newton, 66, Chancery-lane—A new mode of applying engraved plates, or electrotype or other substitutes for such plates, to the cylinders of printing presses, and of applying other parts of such presses in combination with the cylinders to enable perfect impressions to be taken from the cylindrical surfaces of the plates (A com.)

Dated 29th June, 1858.

1461. F. A. Calvert, Manchester—Imp. in machinery for cleaning and preparing cotton, wool, and other fibrous materials.
1463. J. Shaw, Manchester—A machine to manufacture square paper and other bags.
1465. J. Harcourt, Broad-street, Birmingham—An improved adjustible spindle for locks and latches.
1467. W. Baker, 8, Albert-villas, Seven Sisters-road, Holloway—Imp. in constructing covered ways for the passage of sewage on the banks of rivers.

Dated 30th June, 1858.

1469. P. P. C. Barrat and J. B. Barrat, 33, Boulevard St. Martin, Paris—Imp. in machinery for digging, reaping, mowing and performing certain agricultural operations, and for cutting drains and excavating, partly applicable to arrangements for communicating motion for other purposes.
1471. S. Fattorini, Milan (Italia)—An universal meridian, applicable to mathematical, geometrical, and precise instruments.
1473. W. Capstick, Liverpool—Imp. in wheels for carts or vehicles to run on common roads.

Dated 1st July, 1858.

1475. H. G. Pearce, Liverpool—Imp. in reefing the sails of navigable vessels.
1477. W. Clark, 53, Chancery-lane—Imp. in gridirons. (A com.)
1479. T. Blinkhorn, Spalding, Lincolnshire—Imp. in the construction of steam boilers and engines.
1481. H. W. Wimshurst, 7, Wilmot-road, Dalston—Imp. in manufacturing sheet metal.

Dated 2nd July, 1858.

1483. C. F. Vasserot, 43, Essex-street, Strand—An improved wire-conductor for electro-magnetic machines. (A com.)
1485. F. Richmond and H. Chandler, Salford—Imp. in machines for cutting hay, straw, and other vegetable substances.
1487. P. R. Hodge, 16, Chalcot-crescent, Regent's-park, and G. Spencer, 6, Cannon-street West—Imp. in the means of preventing or regulating the recoil of springs used in railway engines, carriages, and station buffers.
1489. W. Sellers, Philadelphia—Imp. in machinery for turning metal shafting or bars and cylindrical rings and cutting screws.
1491. J. L. Clark, Adelaide-road, Haverstock-hill—An imp. in electric telegraph cables or ropes.

Dated 3rd July, 1858.

1493. T. Scott, Drummond-street, Euston-square—Imp. in dressing, separating, and cleaning seeds, and in apparatus for these purposes.
1495. S. Lees, Bury, and J. Jaques, Preston—Imp. in the means for generating steam and economising fuel.
1497. T. Restell, New Kent-road—Imp. in breech-loading fire-arms and ordnance, and in ammunition to be used in breech-loading arms.
1499. J. Chisholm, Bermondsey—A method of disinfecting and deodorizing or treating sewage and other matters and structures and places.
1501. O. Sarony, Scarborough—Imp. in treating and colouring photographic pictures.
1503. A. V. Newton, 66, Chancery-lane—Imp. in soldering irons. (A com.)
1505. E. Haeffely, Kearsley, Lancashire—Imp. in recovering oxides of manganese from products arising out of the manufacture of chlorine, and in raising commercial manganese to higher oxides.

Dated 5th July, 1858.

1507. R. A. Brooman, 166, Fleet-street—Imp. in the manufacture of cast steel. (A com.)
1509. J. Hodgkinson, Atherton—Certain improved machinery or apparatus for kneading dough in the manufacture of bread.
1511. M. Nelson, New York, U.S.—Imp. in propellers for vessels.

Inventions with Complete Specifications Filed.

1558. W. Northen, 14, Vauxhall-walk, Lambeth—The application of stoneware or earthenware, coloured or plain, to improved and original designs—12th July, 1858.

WEEKLY LIST OF PATENTS SEALED.

July 16th.

2798. W. F. Batho and E. M. Bauer.
88. G. A. Tremeschini.
89. B. B. Wells.
93. O. von Corvin.
95. R. Martin.
96. T. Heppleston.
101. R. A. Brooman.
190. J. Sholl.
885. G. Smith.
1017. W. Wallis, W. Langford, and J. Slack.
1110. G. M. Casentini.

July 20th.

100. C. Rishworth.
107. T. Ivory.
120. W. Basford.
128. J. Johnston.
154. W. Spence.
674. T. Steven, T. Reid, and T. Frew.
694. A. P. Dadley & N. Brough.
1148. A. P. Price.

Patents on which the Stamp Duty of £50 has been Paid.

July 12th.

1577. R. Yeates.
1586. T. Sadleir.
1608. W. C. Thurgar.

July 13th.

1566. J. H. Tuck.
1587. F. Burke.
1627. J. G. Lawrie.

July 15th.

1593. J. B. Pascal.
1633. J. H. Johnson.
1634. J. H. Johnson.
1642. J. H. Johnson.

July 16th.

1599. W. Pidding.
1620. A. E. L. Bellford.
1629. D. Fisken and T. R. H. Fisken.
1684. B. Bailey.

July 17th.

1614. W. Smith.
1622. V. Scully and B. J. Heywood.
1624. R. Martin and J. C. Martin.
1628. P. Bertinetti.
1668. A. Achard.